The æsthetic taste exhibited by *Vallonia pulchella* is noteworthy; from under the *Roses* of Shasta county in the north, to the *Verbena* beds of Los Angeles in the south, and among the *marbles* of Mountain View, in Alameda county, suggests a refinement of discrimination in this "mere atom of humble life," that would furnish a good text for a sermon.

Mr. Button, in his note to me referring to the cemetery habitat, writes, "Query—Brought from the East in plants?" As to the occurrence of *V. pulchella* in my grounds, I am wholly at sea, for no plant forms, from the neighborhood or elsewhere, have been introduced by me for a long time, and these little snails have appeared in numbers, *within six weeks.*

In considering the hypsometric distribution, the altitude of Donner Lake is, according to Gannett,[1] from whom these various elevations are quoted, 6095 feet; Truckee 5820 and Redding 555 feet; Julian 4500 and Los Angeles about 300 feet, while the Mountain View Cemetery grounds are probably slightly less than the Los Angeles figure.

Los Angeles, California, Sept. 12, 1900.

AN HOUR ON THE GREAT RAFT.

BY LORRAINE S. FRIERSON.

While the readers of NAUTILUS are waiting to hear of the results of the exploration of the Great Smokies by Ferriss, Walker & Co., perhaps they would like to hear about a trip to the Great Raft of the Red River.

This raft of logs was at one time 150 miles long, but it has long since been removed from the main river. There still remains in an arm of the river about five miles of the old raft. This raft is not continuous, but consists of separate pieces from a mile long down to fifty yards. These logs are in some places only one log deep, *i. e.*, the surface of the water is covered by a single layer of logs.

In other places, however, the river is completely filled with a solid mass of logs from ten to fifteen feet deep. These logs are covered

[1] Dict. of Altitudes in the U. S., 3d Ed., U. S. Geol. Survey, 1899.

with a mass of vegetation consisting of smart-weed, various species of sedges, grasses and bushes. Near the water, on a zone of about two inches wide, which is permanently wet, may be found two minute snails: *Vertigo rugosula* Sterki and *V. ovata* Say. On the tops of old and large logs there is frequently a deposit of earth, which supports a colony of land shells. Among these may be found *Polygyra thyroides* and its variety *bucculenta*, *Polygyra monodon* var. *friersoni* Pilsbry. Rarely may be obtained *Polygyra carolinensis* Lea.

Roaming about on the logs may be found colonies of *Succinea* of a black color. That is to say, the animal itself is black, covered with small golden-colored spots, making a handsome animal. These *Succineas* would be found here in untold numbers, probably, were it not for two enemies who derive a considerable part of their living from them. One of these enemies is the whole Heron family, and the other is the frog family. Between the heron and frogs the *Succineas* have a poor chance.

As before remarked, bunches of various sedges grow on these logs. These sedges grow in bunches about two feet high and about one foot in diameter. Hidden in these bunches, down near the roots, may be found another species of *Succinea*. These are of a straw-yellow color. Between these and the blacks are several points of difference. The blacks live on the logs, the yellow ones live on the tussocks of sedges. Here is a nut for the evolutionist. Is the straw-colored snail colored like straw because it lives on straw? or does it live on straw because it is straw-colored? Another point is that the straw-colored snail (who is nearly always hidden in the bunches of grass) is sweet tasted, or at any rate is not nauseous; while the blacks who roam about considerably have quite a pronounced bitter taste. Both of these snails have been called *S. salleana*, but being sure that there were two species, they were submitted to Dr. H. A. Pilsbry, with the result that the blacks are *Succinea luteola* Gld., while the yellow fellows are *Succinea salleana* Pfr.

Out in the water, among the floating roots of the duck weeds, etc., may be found *Planorbis trivolvis* Say, and a minute *Limnæa*. This *Limnæa* is the only representative of its tribe thus far seen in Northern La. No specimen over one fourth of an inch long has ever been secured. It is labelled *L. caperata* Say, but with a good deal of doubt.

More about this raft and its inhabitants could be written, but *hot!*

Gracious, how the perspiration rolls off a fellow! Down between the banks, with an August sun overhead, and the steam arising from the rank vegetation, and the sun's rays reflected from the water, we thought of Ferriss digging snails on the mountain tops, and we quit, but we had at least 100 *Succineas*.

SHELL COLLECTING NEAR ROCHESTER, N. Y.

BY FRANK C. BAKER.

For the past five years the writer has made annual pilgrimages to Rochester, New York, partly to spend his summer vacation, and partly to get better acquainted with the mollusks which flourish about the "Flower City." The vicinity of Rochester is peculiarly adapted for molluscan life, owing to the fact that the Niagara limestone out-crops in various places, affording an abundance of lime for the secretion of their shells, which are, therefore, large and fine.

The Eskers known as the Pinnacle and Cobb's Hill, are my favorite localities, and many fine species have been collected. The former locality is a rounded, dome-shaped hill some 200 feet in height, the slope being from 10 to 30 degrees, well wooded on its summit, with a little ravine between the main hill and a small knoll, and littered by fallen, rotting logs and dead leaves. Helices are here very abundant, such forms as *Vitrea arborea*, *V. indentata*, *Omphalina fuliginosa*, *Gastrodonta interterta*, *Pyramidula alternata*, *P. striatella*, *Polygyra albolabris*, *P. sayii* (rare), *P. monodon*, *P. tridentata* (many varieties), and *Cochlicopa lubrica* being readily collected. Cobb's Hill, just across Monroe avenue, yields about the same fauna.

At a point in the Erie Canal where the waters widen to form a pond, hence called "wide-waters," the fresh water mollusks are numerous, and such species as *Limnæa stagnalis* (large and fine), *L. palustris*, *L. catascopium*, *L. desidiosa*, *Planorbis trivolvis*, *Physa heterostropha*, *Pleurocera subulare*, *Goniobasis livescens*, *Bythinia tentaculata*, *Valvata sincera*, and *V. tricarinata* are common. Between Rochester and Pittsford, in the canal, a colony of *Vivipara contectoides* has established itself, and a large number of fine specimens may be gathered at any time. When the water is drained from the